DOCUMENT RESUME

ED 260 361 CG 018 454

AUTHOR Pickens, Keith
TITLE The Young and the Volatile: Coping with Solvent Abuse.
INSTITUTION New Zealand Council for Educational Research, Wellington.
REPORT NO ISBN-0-908567-43-X
PUB DATE 85
NOTE 48p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adolescents; *Children; *Drug Abuse; *Drug Education; Drug Rehabilitation; Elementary Secondary Education; Foreign Countries; Health; High Risk Persons; Parent Counseling; *Prevention
IDENTIFIERS *Glue Sniffing; New Zealand; *Solvents

ABSTRACT

This report on sniffing behavior and solvent abuse among children and adolescents is intended for use by health and education professionals. A brief historical overview of solvents used, methods of use, and effects is provided. Three types of sniffers (experimenters, social users, chronic abusers) are identified, and age data, children at risk, and incidence data are discussed. Symptoms of sniffing are listed, steps to take when a child is discovered sniffing are enumerated, and suggestions are made for following through on suspicions of sniffing. Risk factors involved in sniffing are examined, including health dangers, sniffing-related injuries and accidents, and other dangers. Practical suggestions are made about initial interventions and about programs of education, prevention, and treatment. For teaching about the dangers of sniffing, a casualty-reduction approach designed to encourage a trend toward less dangerous kinds of sniffing is presented, and problems with this approach are discussed. High fear and information approaches are also considered. Non-specific prevention measures are described, along with considerations of controlling or treating solvents. Suggestions are given for counseling and therapy and for working with parents and with professionals. A general guide to chemicals in sniffed products and a list of further reading in several areas are provided. (NRB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED260361

THE YOUNG AND THE VOLATILE

CG018457

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

K A. Pickens

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

THIS DOCUMENT MUST NOT BE USED AS HANDOUT MATERIAL FOR CHILDREN

It lists some of the signs and symptoms of sniffing behaviour, describes the different kinds of solvent abuse, discusses the risk factors, and makes practical suggestions about programmes of education, prevention and treatment.

It is intended primarily for professionals in health and education, but professionals in other areas will find it useful as background, especially when working in multi-disciplinary settings, or in advising and counselling worried parents.

ISBN 0-908567-43-X

© 1985, New Zealand Council for Educational Research, P.O. Box 3237, Wellington, New Zealand.

This is a revised version of an earlier publication called *Coping with Volatile Situations: A Guide for Teachers*, published in *set*, No.2, 1982. It is published at the request of the augmented Interdepartmental Committee on Solvent Abuse, and with the assistance of the Department of Social Welfare. The contribution of colleagues who read and commented on the draft is acknowledged, as is the assistance of the Institute for the Study of Drug Dependence.

Printed by Lithoprint (NZ) Ltd.

The Young and the Volatile:
Coping with Solvent Abuse

By Keith Pickens

An NZCER Information Service

New Zealand Council
for Educational Research
Wellington
1985

CS 018454

Contents

Overview 5
Historical Context, Definition, Substances, Methods, Effects

Sniffers 9
Experimenters, Social Users, Chronic Abusers, Age Data, Children at Risk, Incidence

Indicators, Discovery, Suspicion 15
Sniffing Indicators, Discovery – Emergency Situations, Discovery – Non-urgent Situations, Suspicion

Dangers 20
Health, Injuries and Accidents, Other Dangers

Interventions 25
Initial Approaches, Casualty-Reduction, High Fear Approaches, Information Approaches, Non-Specific Measures, Controlling Solvents, Treating the Solvents, Out-of-School Sniffers, Counselling and Therapy, Chronic Sniffing, Settings for Treatment

Working With Parents 37

Working With Professionals 39

Concluding Comments 40

References 41

Further Reading 43

Appendix 47

List of Figures

1 Experimental Solvent Abuse 8
2 Chronic Solvent Abuse 11
3 Sniffing Danger Continuum 19

Coping With Solvent Abuse

Overview

Historical Context

Most adults tend to see sniffing as a totally new phenomenon, something well outside the range of all previous experience and, if only for that reason, something to be vigorously suppressed. It is a fairly common reaction, just another version of 'He's a stranger – throw a brick at him'. But the novelty of the practice is more apparent than real for there are many examples all through recorded history, and as far back as 10,000 years ago, of vaporous substances being inhaled. Sometimes this happened in the context of religious ceremonies, the intention being to help the worshippers feel closer to God. More often, it was just a simple matter of people wanting to feel good. Within fairly recent times, for example, chloroform and nitrous oxide were popular and cheap substitutes for alcohol, and no doubt would still be so if discovery of their medical applications had not led to their withdrawal from private recreational use, and their current status as controlled substances. A little further back, the use of snuff was common. Today, inhaling the smoke of burning tobacco is a popular and legal pastime, despite the addictive nature of the habit and the very serious dangers to health. There is also an illegal drug, not a solvent, which is inhaled. This substance is a kind of latter-day, but very dangerous, snuff, and is a major problem overseas.

There can be no doubt that sniffing is a very basic, persistent and common kind of human behaviour but it has, in the past, always been adult behaviour. The unsettling development of the last 30 years or so has been the appearance of sniffing among children and adolescents. Indeed, nowadays, inhalant abuse is regarded as almost exclusively a juvenile pre-occupation, and its relationship to virtually identical

behaviour among adults, either currently or in centuries gone-by, is ignored or overlooked.

There are other differences between modern day sniffing and its historical antecedents besides the identification with children. Until this century, and perhaps as late as the 1940s, substances suitable for sniffing were few in number and perhaps not always easy to find. Now, there is a very wide range of products and compounds that can be used, and most of them are commonly available and easily obtained, even by very young children. Both of these facts have to be related to the post-war expansion of the chemical industry and to the growth of the consumer society. From that perspective, sniffing is just another of the unexpected and certainly unwanted by-products of late 20th century progress and development.

In its modern form, solvent abuse first emerged in the 1950s, in the United States. During the 1960s it crossed the Atlantic to Western Europe, including the British Isles, and the Pacific to Japan, arriving in the Antipodes during the 1970s. By the beginning of the 1980s the practice had established firm footholds in both Australia and New Zealand and now, in the middle years of the decade, it has become a topic of serious public concern.

Definition

Solvent abuse, or inhalant abuse, or glue sniffing, is the deliberate inhalation of the fumes of substances known to produce an intoxicated state of mind and body. It is characteristically, but not exclusively, a juvenile practice (e.g. Hershey and Millar, 1982).

The Substances

Glue is the product most frequently employed by sniffers, so much so that glue sniffing and solvent abuse have become almost synonymous terms. However, this is something of an over-simplification since sniffers can and sometimes do use any of a large number of different preparations and products, many of them in everyday domestic or industrial use. (see Appendix)

The common characteristic of these various substances is their

volatile nature. Some, like the contents of aerosol cans, are gaseous by nature. Others, like petrol or dry cleaning fluid, fume at room temperature. The rest vaporize if heated.

Methods of Use

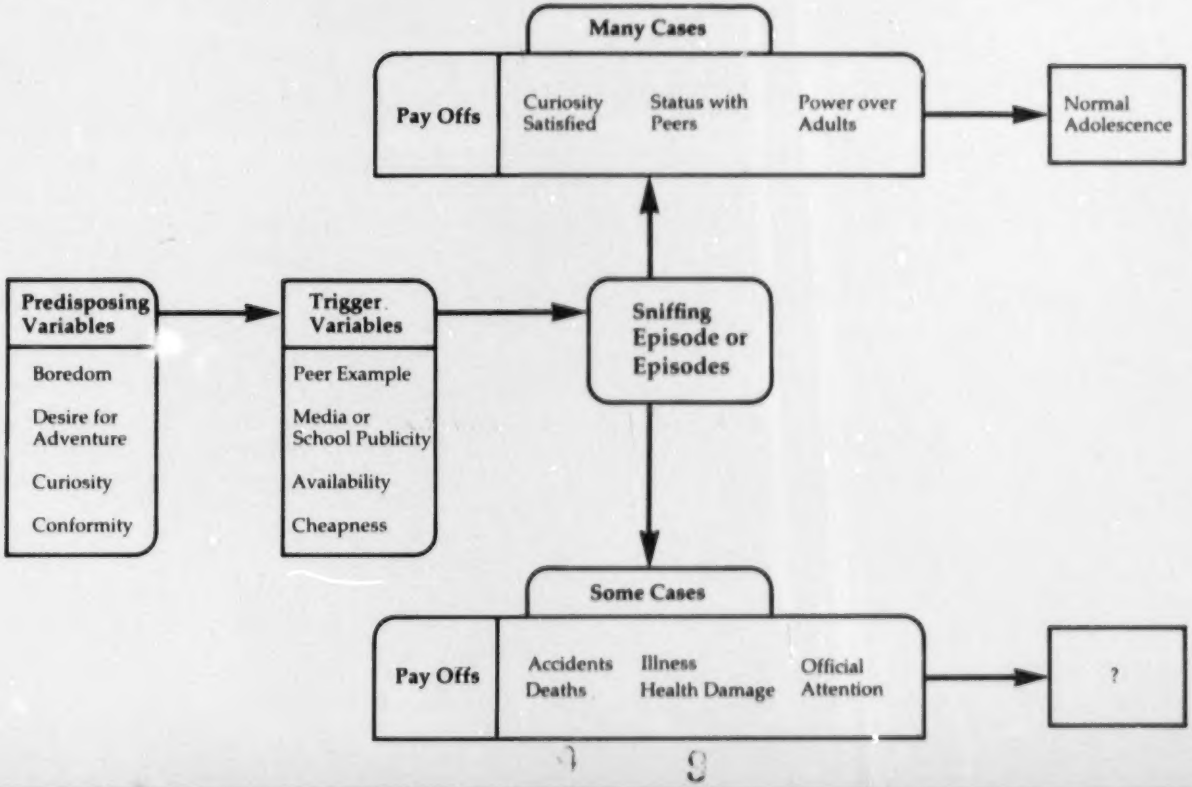
The usual procedure is to inhale the fumes directly from the container or from a bag of some kind. Alternatively, a solvent-impregnated handkerchief or rag may be sniffed or held over the nose or mouth. It is not uncommon for sniffers to maximise the effects by concentrating the fumes in an enclosed space – a cupboard, a sealed room, the area under a house. One particularly dangerous method involves covering the head and shoulders with a plastic bag. A more concentrated vapour may also be obtained by heating the substance in use.

A great many variations on the standard methods of inhalation are detailed in the literature (e.g. Barnes, 1979; Watson, 1982; O'Connor, 1983b), including some very inventive ones indeed, but these need not be described here.

The Effects

The fumes produced by these volatile substances contain complex chemical compounds. When these compounds are drawn into the lungs they are quickly absorbed into the blood stream and carried directly to the brain, sometimes in a matter of seconds. Depending on the substance, the dose, and the physique and expectations of the user, the normal pattern is for sniffing to produce an initial sensation of excitation, which then gives way to a state ranging from mild intoxication to total unconsciousness, and which can last just a few minutes or as long as an hour. This is followed by a period of recovery marked by drowsiness and frequently accompanied by headaches and nausea.

Figure 1: Experimental Solvent Abuse



Sniffers

There are, in general, three distinct kinds of sniffers.

Experimenters

These are the children, usually but not always boys, who try it out because everyone is doing it. Their sniffing does not progress beyond a few experimental episodes, and assuming they use the usual type of solvents, in the usual manner, they are normally in the low risk-to-health category. If a disaster does occur, it is nearly always the result of ignorance or inexperience. Apart from that, the greatest risk experimenters face is the possibility of adult discovery and over-reaction.

Social Users

If children sniff more than once or twice, but still on a fairly infrequent basis, and then as part of a group, they can be classified as recreational, periodic or social users.

Experimenters try it once or twice and drop it. But social sniffers are very much like social drinkers. Consequently, while they sniff more often than experimenters, they do so only occasionally, and with friends. For these reasons, and also because they are usually more experienced, social sniffers tend to be in a very low risk-to-health category. Moreover, they seldom persist with the habit beyond mid-adolescence, when sniffing typically gives way to the use of drugs like alcohol and tobacco.

While most recreational sniffers follow this particular progression, it is by no means unknown for social sniffers to use alcohol, cannabis or other substances as well. Sometimes these drugs are used alternatively

with solvents, a pattern which may be created by factors like opportunity and availability and which probably has no additional health-risk significance. It is more worrying, of course, if drugs are used in combinations. Sniffers who seem to be social sniffers but who are also multi-drug users need to be carefully assessed: they may be individuals on the way to developing a chronic dependency on drugs.

Chronic Abusers

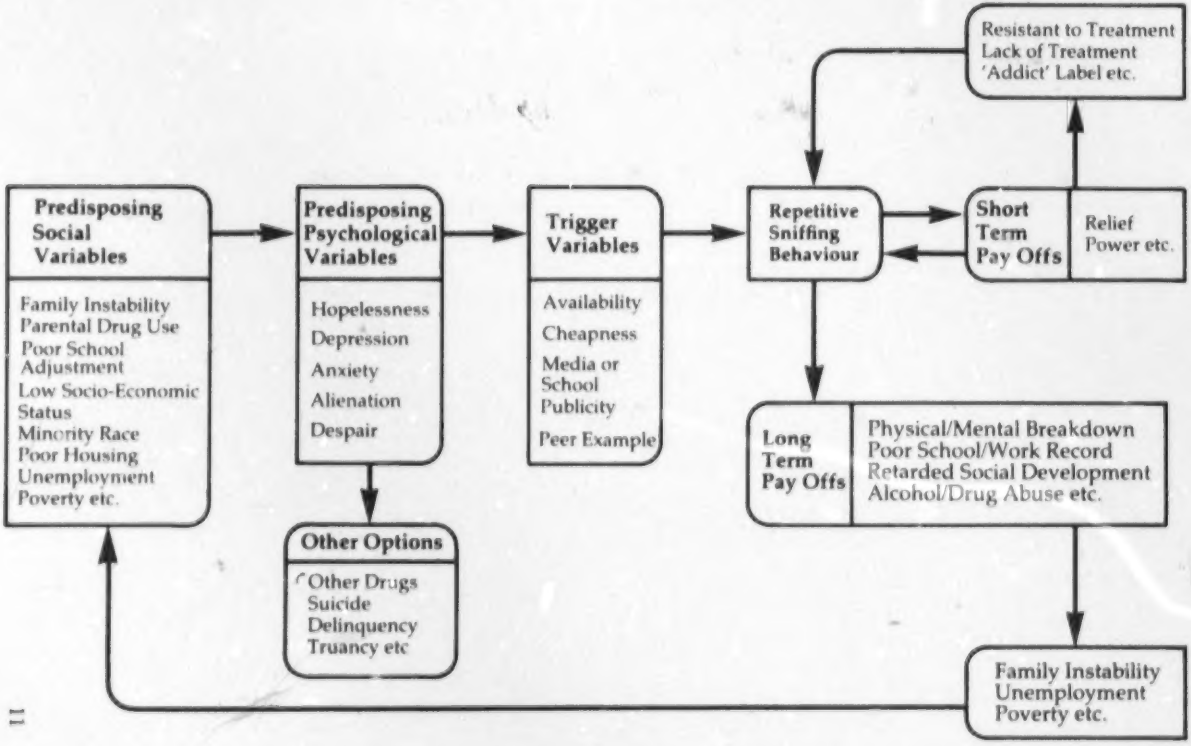
Chronic sniffers are the solvent 'alcoholics'. They abuse glue the way some adults abuse alcohol or valium, as a means of escaping from an unpleasant reality. Since sniffing provides relief, the habit is established. Then, to achieve the same effect, ever increasing amounts have to be used. If this vicious circle is not broken some degree of physical and psychological deterioration is almost inevitable. Chronic abusers may be part of a group or they may sniff alone. Solitary abusers are generally the most intractable and difficult to treat.

Definitions of chronic abuse vary from one researcher to another. Masterton (1979) defined it as 'frequent abuse of one or more solvents for more than three months'. O'Connor (1982) has a rather more precise definition: 'regular inhalation sessions occurring at least 4 days a week for a minimum of 3 hours a day' over a duration of at least 6 months. Skuse and Burrell (1982) specify the diagnostic criteria even more precisely still, a chronic abuser being someone who sniffs at least once daily, uses at least 250 ml of glue a day, and has been sniffing continuously on this scale for at least 6 months.

Watson (1982) does not define what she would regard as chronic abuse but her figures do enable one to locate the two ends of the sniffing continuum. She found that in her sample the frequency of use ranged from a few occasions only to daily use for 18 months or more, and the amount used ranged from 1 tube over two weeks to 3–4 pints daily. Clearly, some kinds of sniffing, and sniffers, are far more problematic than others.

The definitions above classify sniffers in terms of the amount of solvent used and/or the frequency of use. Other schemes of classification are possible, for example, the type of solvent used, or the degree of long-term impairment (social, mental or physical) exhibited.

Figure 2: Chronic Solvent Abuse



Irrespective of the way in which sniffers are classified, only a minority of all cases will fall into the serious problem category. It is important to keep this in mind when considering statistical data based on very small or pre-selected sniffing populations, for example, those who come to the attention of youth aid officers, those treated in the accident and emergency departments of hospitals or those who, tragically, become the subjects of coroners' inquests.

Age Data

Sniffers can be as young as 6 or 7 years and as old as the early twenties, but most seem to fall into the early adolescent age range, that is to say, 12 to 15 years. A national survey in the United States (Johnston, Bachman and O'Malley, 1980) revealed that of those children who tried sniffing only a very small proportion did so before their 12th birthday. Between 12 and 15 years of age the number of children sniffing increased, and then fell away. Most overseas studies (e.g. Fishburne and Abelson, 1980; Watson, 1982; Gay, Meller and Stanley, 1982) tend to show that late-adolescent sniffers, other than chronic abusers, are relatively uncommon. This may be the case in New Zealand too.

It seems likely that the younger the child, the more probable it is that the sniffing is of an experimental nature. Conversely, the older the sniffer, the more likely it is that the habit has become entrenched, and that a state of dependency exists. Most of the sniffers in the 12 to 15 year age range, on the other hand, will be recreational or social sniffers, or simply experimenters.

Children at Risk

There has been a good deal of research (e.g. Woolfson, 1982; O'Connor, 1979; Campbell and Watson, 1978) into the characteristics of solvent-abusing children and adolescents, as distinct from experimenters and social users. While some of the studies tend to disagree with the others, it seems to be generally accepted that chronic abusers are likely to be low achievers, to have a history of school behaviour problems, and to come from families with low social and economic status, including families coping with unemployment.

Additionally, they are likely to come from broken or stormy homes, and homes where parental drunkeness is a significant problem. They are also predominantly male, although this may be changing, and in New Zealand there seems to be a disproportionate number of Polynesians.

These research findings do not mean that all children from problem homes will inevitably become chronic solvent abusers. The same comment is true of Polynesian children and of children having difficulties at school as well. However, it is important to keep in mind the characteristics of children who may be at risk of following this particular progression, and to monitor these children with an extra degree of care.

Incidence

We don't have any accurate information concerning the number of children in New Zealand who might be involved in sniffing. There are 'guesstimates' available (e.g. Officials Committee on Family and Social Policy, 1984), but it is hard to know what to make of these reports since most of them, if taken at face value, tend to suggest that sniffing may be less of a problem in New Zealand than many people believe it to be.

However, there are recent overseas surveys, and these may be more helpful in giving us some idea of the dimensions that solvent abuse could reach in New Zealand and Australia. In 1980, 17.6 percent of a national sample of young Americans aged 15 to 17 years reported having tried sniffing but only 2.7 percent reported doing so within the past month (Johnston, Backman and O'Malley, 1980). It is encouraging that a very great majority (over 80 percent) of the young people surveyed reported that they had never sniffed. A comparison made with figures obtained in previous years is even more encouraging since this indicated that usage appears to have levelled out, and may even be on the decline, in the United States. The same seems to be true of Canada. Solvent-related deaths also declined in the United Kingdom during 1984, for the first time for 5 years (Passmore, 1985). This last bit of information is of particular interest because, in general, sniffing seems to have been on an upward curve in the British Isles over recent years, and most of the current research into solvent abuse originates in England and Scotland.

Another important thing to note is that American surveys (e.g. Barnes, 1979) usually revealed marked differences in the incidence of solvent abuse from one locality or community to another. Figures from the United Kingdom (Watson, 1978) suggest that this is true in that part of the world as well.

Overseas data of these kinds indicate that while sniffing may at times reach epidemic proportions in some New Zealand localities and become fairly widespread on a national basis only a minority of our children (maybe no more than a fifth) will indulge in the practice, and only a very few will become chronic or habitual sniffers. Sadly, sniffing may be increasing among our young people at the present time, and given its association with poverty and unemployment, the worst may be yet to come. Even so, it is always necessary to keep a sense of proportion about various kinds of social problems. Far more children will die, or be injured, as the result of road accidents than will die or suffer serious consequences from sniffing. More will drown in unfenced swimming pools. More will be the victims of incest or child abuse. Even if we restrict our attention to the misuse of drugs by young people, juvenile drinking and smoking are far more serious problems than sniffing.

Indicators, Discovery, Suspicion

Because sniffing has a number of different forms and is variable in its incidence, it will always be difficult to obtain a precise idea of the total number of New Zealand children who are, at any particular time, engaged in either using or abusing glue or some other solvent. If local surveys are undertaken the results will almost certainly be date and locality specific – that is to say, what is true of one district may not be true of a neighbouring district, and what is true now may not be true of the same location in a year's time.

From the point of view of those who must allocate resources, finance national programmes and develop staff training programmes, this is an unhappy situation. But for the front line troops it hardly matters at all. The real issue, for them, is not how many sniffers there are in New Zealand, or how many there will be next year, but how to deal (a) with the sniffers who present, or are uncovered, sometimes quite by accident, in the course of their daily professional duties, and (b) with the parents and others who discover or suspect sniffing and want *something done about it*.

In the nature of things, it is teachers who are likely to be the first to discover or suspect that a particular child is sniffing or that sniffing is catching on in their locality or school, and a good deal of what follows is written with this in mind.

Contrary to popular belief, only rarely does one come upon a comatose child clutching a tube of glue in one hand and a plastic bag in the other. If there has been a sniffing outbreak in the recent past, then it can be taken for granted that some sniffing is still going on in the school. This is because sniffing is rather like a contagious disease. It starts with one or more individuals, and then quickly spreads by peer group contact. It can race through a school, then just as quickly disappear, leaving behind only a handful of habitual or chronic sniffers who probably act as a focus for later outbreaks. Having appeared for the first time, sniffing tends to become both endemic and epidemic in

nature – that is, there is always some sniffing going on and, from time to time, probably as new age cohorts arrive in the school, a lot of sniffing going on.

It is more likely that the school will become aware of sniffing when it is in an epidemic phase, simply because of the numbers involved. Some of the clues may be quite obvious – empty glue containers, or discarded plastic bags scattered about on secluded bits of ground, for example. Sadly, a fatality or serious accident may sometimes be the means of discovery. Usually, however, the alarm is given by observant teachers, who know their pupils well and who are aware of the physical and behavioural changes that may indicate solvent abuse.

There are always dangers inherent in the use of checklists, and while the conditions and behaviours described below may, as a group, strongly suggest sniffing, they could individually be due to any number of other causes. In any event, they are the kinds of things that teachers, and wise parents, should investigate, if only to eliminate sniffing as a cause.

Sniffing Indicators? Maybe, Maybe Not

1. A chronic cough may be sniffing-induced, but it could also be a smoker's cough, or have one of many possible natural causes. The same is true of other signs such as sore eyes, headaches or nausea.
2. Loss of appetite and weight is a common symptom of sniffing, but don't jump to the conclusion that sniffing is the only possible cause.
3. Dermatitis or rash around the mouth and nose is a more likely sign, but not an infallible one.
4. Drowsiness, paleness, stupor and lack of concentration may be due to sniffing, but these symptoms could also be the result of too much TV.
5. Odour on the breath may or may not indicate the existence of sniffing. But if the odour is of glue or some other solvent that would be strong evidence.
6. A drop in personal standards of hygiene is a fairly common result of a pre-occupation with sniffing but it can also have other causes.

7. A decline in school performance, truancy, or withdrawn behaviour can follow on from a number of circumstances, including sniffing.

8. Confusion, slurred speech, poor memory, lack of concentration, that is, all the signs of drunkenness, may be evidence of a solvent-induced state of intoxication. On the other hand, the child may be drunk on alcohol or under the influence of some other drug or taking prescribed medication.

9. Restless, moody and temperamental behaviour could be explained by sniffing, but behaviour of this kind is perfectly normal behaviour for most adolescents at some stage or other.

Discovery

If you discover a child sniffing, act as follows:

(A) Emergency Situations

(i) If he or she is unconscious:

1. Check airways, and turn to the recovery position to ensure that vomit cannot be inhaled. If in an enclosed space ventilate the area.
2. See that a doctor and an ambulance are called.
3. Notify parents.
4. Remove the substance and hold for identification. In some situations this might be the first thing to do.

(ii) If breathing is shallow or absent:

1. Check airways. If in an enclosed space ventilate the area.
2. Apply artificial respiration.
3. See that a doctor and an ambulance are called.
4. Notify parents.
5. Remove the substance and hold for identification. In some situations this might be the first thing to do.

(iii) If the child is disorientated and/or in a dangerous situation:

1. Do not confront the child but in a firm and caring manner remove him from the danger.

2. Stay with the child until he is recovered.
3. Remove the substance and hold for identification.
4. When he is in a lucid state discuss the situation with him.
5. Parents should be notified and other professionals as well.

(B) Non-Emergency Situations

If the child is intoxicated but not disorientated or in a dangerous situation:

1. Remove the substance and hold for identification.
2. Wait for the child to recover. The intoxication produced b a moderate or small amount of solvent sniffing generally passes within a few minutes or so and no treatment, other than fresh air, is needed.
3. When the child is completely recovered, discuss the situation with him.
4. Parents should be notified and other professionals as well.

Suspicion

If you suspect sniffing is going on, the action taken rather depends on the nature of your relationship with the child. If you are friendly, it may be possible to raise the matter in a fairly direct way. The important things to discover are:

1. What is being used.
2. How it is being used.
3. Where it is being used.
4. How it is obtained.
5. What else is being used.
6. Why the child sniffs.
7. Whether the child sniffs alone.
8. How long he has been sniffing.

9. How often he sniffs.
10. What happens when he sniffs.

If the child is hostile, or a stranger to you, and no rapport can be established, and if he seems to belong to a high-risk category, then urgent discussions with the parents, involving other professionals, are indicated. Be sure to include someone who is experienced in counselling in these kinds of situations.

Figure 3: A Sniffing Danger Continuum

Less Dangerous ⟷	**More Dangerous**
Recreational Sniffing	Experimental and Chronic Sniffing
Group Sniffing	Solitary Sniffing
Sniffing Glue	Sniffing Petrol, Aerosols or Fire Extinguishers
Sniffing in Open Air Sniffing from the Container Using Small Amounts	Sniffing in Enclosed Spaces or with a Plastic Bag over the Head Heating the Solvent Using Large Amounts
Sniffing in Frequented Places	Sniffing in Isolated Locations, or near Rivers or Railway Lines, etc.

The Dangers

Different kinds of sniffing carry different degrees of risk. The first priority, therefore, is find out what is being sniffed, and how it is being sniffed. Generally, most experimental and recreational sniffers will be glue sniffers, and they will sniff in a group and in a fairly conventional manner. *However, never assume this is the case.* The child's answers to your questions will help you decide exactly what kind of sniffers and sniffing you have on your hands. Figure 3, and the following section on the dangers of different types of sniffing, will help you determine the degree of risk involved and therefore the extent to which urgent action is required.

Health Dangers

Many of the obvious effects of sniffing – dizziness, loss of concentration, confusion, unsteady gait, and so on – are similar to those produced by too much alcohol, and are transient in nature.

At the other extreme, the fluorocarbon used in fire extinguishers and some aerosols can produce heart or respiratory failure and so sudden death. There are other compounds, for example, benzene (found in petrol) and carbon tetrachloride, which can kill most efficiently as well, if inhaled in sufficient strength. Fortunately, sniffing deaths caused by acute toxic reactions are quite rare; the real issue is whether sniffing produces irreversible brain, organ or body system damage.

This question is a topic of keen debate among medical and other kinds of researchers and, at the moment, the best answer seems to be that it all rather depends on the substance employed and the dose and frequency of use. For example, it is known that the lead found in petrol can injure the nervous system and the brain. Benzene, also found in petrol, can disturb the blood-forming process. Carbon tetrachloride has been linked to kidney and liver disorders.

Clearly, it is foolish to belittle the dangers inherent in the sniffing of substances known to be highly toxic but, at the same time, it is important to put the evidence concerning the possibility of bodily damage of a serious or permanent kind into perspective. The first point to make is that the evidence for drastic effects of these kinds comes mainly from studies of small occupational groups who either manufactured the substances concerned or used them in their work. Their exposure to these toxic compounds was constant and long term, quite unlike the brief contact that would be typical of most sniffing episodes. People who deal with sniffers need to be aware of the relative toxicity of various compounds or products (e.g. Gosselin, Hodge, Smith and Gleason, 1976). But it is unwise to extrapolate the findings of health surveys of adult workers, exposed over a long period of time to a particular substance, to first-time or even occasional juvenile sniffers of that substance. *The only products which are known to have a lethal potential for even first-time sniffers are aerosols and fire extinguishers.* In all other cases, the possibility of serious harm increases as one moves from less toxic to more toxic compounds, from less frequent to more frequent use, and from smaller to larger doses.

One of the features of modern day sniffing is the very wide variety of products that are adaptable to the practice. If a substance can be sniffed, someone will eventually find out, and start a wave of experimentation with the new discovery. However, there is ample evidence that the more dangerous solvents are the least popular with sniffers and that a good many sniffers are content with small doses, infrequent sessions, and drop the habit fairly quickly (Watson, 1982; Anderson *et al.*, 1982); Francis *et al.*, 1982). For example, Watson's study (1982) of 400 cases of solvent misuse between 1975 and 1981 showed that 90 percent of the predominantly male group concerned used glue and inhaled from a small plastic bag, that is, they used the 'safest' method and substance. A typical sniffing episode is, at least potentially, a bit more risky than a smoking session behind the garden shed. In terms of the danger involved it probably falls into the same category as the first unsupervised encounters with alcohol.

Does the more repetitive nature of social and chronic sniffing increase the long-term health dangers? Probably, but some evidence (Clark and Tinston, 1982) suggests that solvent-induced conditions may clear up or become much mitigated, once the abuse stops, in much the same way that the effects of smoking tend to reverse, once the habit

is kicked. Obviously, the substance used, the manner, the period of use, and the dosage influence what the effects are or could be. Nonetheless, health damage of a serious and permanent kind appears to be an uncommon outcome, even for sniffers of the more persistent type.

Naturally, these comments on the health dangers of the ordinary or common variety of sniffing do not apply if you find that your sniffers – be they experimenters, social sniffers or chronic abusers – are into petrol, aerosols or fire extinguishers. The health risks associated with these products, particularly the last of them, warrant immediate action aimed at halting their use.

Sniffing-Related Injuries and Accidents

Petrol sniffing, or the very foolish habit of sniffing from aerosols and fire-extinguishers to one side, the immediate and long-term health dangers of glue sniffing appear to be quite minimal for experimenters. This is probably true for social glue sniffers as well.

However, the manner and location of the sniffing has to be taken into account, for even when the so-called 'safest' solvents are being used, things can go wrong. Death by suffocation, the result of sniffing with a plastic bag over the head, is far from unknown. Deaths or injuries from falls or other accidents while in an intoxicated state are quite possible as well.

Some of these sniffing 'accidents' seem to result from sniffers being driven, by adult disapproval and pressure, to congregate in out-of-sight and dangerous locations. As such, they may be quite preventable. Ideally, sniffing should not be allowed to continue in places where younger children can observe the practice. Nor should it be tolerated in very public places, where it may be a defiant act, intended to give offence to adults in general and the police in particular. But where the power to move sniffers on exists, it should be used with some awareness of the additional risks that sniffing involves when it goes on in isolated and possibly hazardous places.

Other Dangers

Apart from the dangers from the solvents themselves, or from the

manner of their use, the other main kind of danger for sniffers comes from adult discovery and over-reaction. Indeed, for many young people, the consequences of discovery can be as severe and long term as any solvent-induced health problem or sniffing accident. Expulsion from school, being brought to the attention of the police, alienation from parents – all of these things can be visited on the heads of hapless young people discovered engaging in what may be just a bit of adolescent devilry.

All too often, when children are found to be sniffing, the parents panic, the original situation is enflamed further, communication becomes difficult, the child is alienated and, very likely, continues to sniff. It is vital, when talking to parent groups, to stress that a good relationship between parent and child is probably the best sniffing preventative and palliative around. Faced with evidence that he or she has a sniffer on the premises, the very first thing a wise parent should do is look to the preservation, enhancement or, if necessary, re-establishment of this relationship. School authorities, for their part, ought to consider whether the long-term effects of expulsion really meet the needs of the situation, and whether they are not simply responding to the media-induced public hysteria that often surrounds sniffing.

Clearly, much of the experimental sniffing that goes on is never detected at the time, and to all intents and purposes disappears without a trace. It seems probable as well that most of the social sniffing gives way, in late adolescence, to social drinking, perhaps overlapping the initiation of social drinking in some cases. Normally, sniffing of this kind has few, if any, lasting physical consequences. It is important to keep these observations about the usual outcomes of sniffing in mind. However, there are always exceptions to any general rule. Never assume that you have an ordinary or garden-variety sniffer on your hands. Always carry out a full assessment of every case of sniffing encountered. As for the chronic users who turn up, it is important that they are not labelled either as addicts, or in any way that suggests they are incapable of learning to understand and control their dependency on solvents.

In any discussion of the dangers of sniffing the key study to cite is probably the Anderson *et al.* study (1982) of 140 deaths associated with solvent abuse in the United Kingdom between 1971 and 1981. Anderson and his associates found that:

- Solvent-associated deaths accounted for approximately 1 percent of all deaths in males aged 10–19 years.
- Only about half of these deaths could be attributed directly to the toxic effects of the solvent being used. Over 30 percent, for example, were due to asphyxiation.
- In terms of their ability to kill, aerosols were the most dangerous and glues the least dangerous of the various solvents implicated.
- Acute reaction to inhalation, leading on to sudden death, was the normal pattern. There was no evidence of lingering fatal illness induced by solvent use.

There is evidence from coroners' reports that the same general pattern exists in this country as well.

There has been, and there will no doubt continue to be, a great deal of alarmist and sensational media publicity about sniffing, giving the impression that death or serious damage is the rule rather than the exception. So it is worth stressing, when talking to parents, people from the media, policy-makers, and so on, that the most commonly used and most widely publicized solvents are the least dangerous; that while the worst-case scenarios provide good headlines, and sell a lot of papers, they are not at all typical; that only a handful of all sniffers die, often as a result of ignorance or misadventure; that many sniffing and sniffing-related accidents may be preventable; that the usual result of a sniffing episode is a hangover, uncomfortable but quite temporary; that most of the sniffing that goes on has more nuisance value than anything else, and is, for the vast majority of the children involved, just a passing fad. Moreover, it never hurts to emphasise that road accidents, drowning, child abuse, alcohol and any number of other things are far more important causes of death or injury to children and adolescents than glue sniffing.

Interventions

Initial Approaches

If the sniffing is experimental and has a low health risk, gentle persuasion or a joint session with parents may be all that is required. Encouraging the children concerned, or the entire school for that matter, into some really exciting recreational activity, plus some suitable follow-up and monitoring of the situation, may also work. The important thing, at the initial stage, is not to panic or over-dramatise the situation. Keep everything fairly low-key.

The essential difference between experimenters and social users is, in the latter case, the regularity of use. Try to discover why sniffing has become a regular pastime, since this is the obvious point of intervention. It may be group pressure, in which case some kind of group discussion, possibly involving older siblings, might be worth trying. It may be the kind of behaviour that continues simply because no alternative presents itself. In that event, there may be an easy solution.

If persuasion, alternative activities, group pressure and similar kinds of approaches don't work, and if the sniffing seems to be of a more resistant type, or you suspect or discover that more dangerous substances or methods are catching on, then the immediate strategy to deploy is casualty or risk-reduction.

Teaching About the Danger of Sniffing: The Casualty-Reduction Approach

The ultimate goal of any anti-sniffing programme is certainly to discourage solvent abuse completely. But when sniffing is rife, the best *immediate* goal may be to ensure that everyone is aware of the dangers

that particular substances and methods involve, in the hope that this will encourage a trend towards less dangerous kinds of sniffing.

This is the approach (ISDD, 1981) suggested by the London-based Institute for the Study of Drug Dependence, one of the leading English authorities on solvent abuse. It is based on three commonsense observations and conclusions:

- No way has yet been found to prevent sniffing completely. *The interim policy, therefore, must to be to reduce the dangers involved.*
- There are no completely safe solvents or methods of sniffing, but some do seem to be safer than others. *Everyone, including children who are or seem likely to become sniffers, should be aware of these.*
- Some sniffing accidents or casualties are attributed to the effects of the solvent being used. Others result from the metheod of sniffing employed, or the location selected for a sniffing session. *Giving children the right kind of information may help prevent some of these accidents.*

In essence, the casualty-reduction approach involves giving information that will enable all children to distinguish:

- Dangerous solvents from less dangerous solvents.
- Dangerous methods of sniffing from less dangerous methods.
- Dangerous locations or situations from less dangerous locations or situations.

Table 1 shows how this approach might be implemented, listing some of the hazards of sniffing, suggesting the reasons for these, identifying possible points of intervention and describing programme outcomes indicative of success. It is probably important to note that while casualty-reduction has a sound basis in theory and commonsense, there is as yet no empirical evidence of its effectiveness.

Problems With Casualty-Reduction

The casualty-reduction approach has its problems, though. For example, despite its acceptance at a high level (Officials Committee on

Table 1: The Avoidable Hazards of Sniffing, their Causes, and Possible Counter Measures

Hazard	*Causes*	*Counter-Measures*	*Criteria of Success*
Using the wrong stuff, e.g. aerosols or petrol rather than glue.	Children get undifferentiated 'don't do it' messages. Children's lack of knowledge about the toxic contents of different substances and their relative dangers.	Children should understand the hazards of sniffing glue, and the extra degrees of danger that the sniffing of other types of solvents involves.	Aerosols, petrol and other substances not used. Glue becomes the preferred solvent. Maybe some reduction in sniffing.
Using the wrong method, e.g. putting a plastic bag over the head, sniffing in an enclosed space, sniffing from a cloth in contact with the nose or mouth, heating the solvent.	Adults fail to point out the dangers in a clear and unequivocal manner. Children unable, from their own experience, to appreciate dangers or anticipate consequences.	Children should understand oxygen deprivation, and the explosive nature of many volatile substances.	Big bags not used. No deaths from suffocation reported. No serious burns reported.
Using too much, leading to vomiting, and being too intoxicated to clear the airways, or being so intoxicated as to become a danger to oneself or others.	Inexperience. No understanding of the dangers of starting with large amounts. Ignorance of simple first aid.	Sniffers should understand the dangers of solitary sniffing, the need for care with unknown substances, simple first aid and when to seek adult help.	Children show awareness of dangers. Social sniffing becomes the norm. Maybe reduction in size of dosage being used.
Using in the wrong place, e.g. near rivers, in isolated places, in old buildings.	Inability to anticipate dangers. Adult reactions to sniffing.	Sniffers should understand the dangers of becoming intoxicated near rivers, train lines, or other hazardous places.	Evidence of sniffing in safer locations. No accidental injuries or deaths reported.
Using with the wrong attitudes, expecting it to lead to violence, playing the addict, etc.	Teenage acceptance of media stereotypes, reinforced by adult beliefs that sniffing leads to crime, and that solvents are addictive.	Teenagers should have some understanding of the role of the media, a concept of addiction, and a knowledge of the causes of adolescent emotional stress.	Young people control their solvents, not the reverse. They understand that it is possible to stop. They are able to voice their real problems – lack of parental love, fear of police, etc.

Based on a similar figure in *Teaching About a Volatile Situation*, London, Institute for the Study of Drug Dependence, 1981, p.4.

Family and Social Policy, 1984), its widespread adoption in this country would inevitably lead to accusations that glue sniffing is being condoned and even encouraged by the authorities, and that teachers and other professionals are 'soft on solvents'. That is the political problem.

If it is not introduced into a school in a low-key and matter of fact way, then it could very well touch off a wave of experimental sniffing. It may produce this result more often than not however carefully and cautiously it is handled, although the risks would probably be less if it is integrated into a comprehensive health education programme, and not implemented as a stand-alone scheme. That is the curriculum problem.

In any event, if casualty-reduction, or any other kind of anti-sniffing programme, is to be introduced into schools, teacher training, evaluation activities and efficient on-going monitoring are all going to be required. That is the financial problem.

If caution prevails, and casualty-reduction is restricted to children known to be sniffing, then other children could die or have a serious accident before they are identified as sniffers, and given the appropriate safety instruction. That is the problem of deciding what the target population is or should be.

But the biggest problem of all is that the alternatives to casualty-reduction are few in number, and with the exception of various non-specific measures, either ineffectual or potentially very dangerous.

High Fear Approaches

Attempts to frighten children out of sniffing are certain to be counter-productive. On one hand, they may alert the child seeking adventure to yet another forbidden thrill. On the other, because they tend to rely on extreme statements which even the most naive of children might find hard to accept, they lack credibility. And in focusing on the most horrific (and rarest) outcomes of sniffing, high fear approaches invariably ignore the commonest pitfalls and hazards. To arouse curiosity and interest in sniffing without giving children a realistic appreciation of the dangers involved is a recipe for disaster.

Information Approaches

Another common form of approach involves giving descriptive information about sniffing, with a stress on the health effects. The intention is not to induce extreme degrees of fear, but rather to 'signpost' the danger, in much the same way that road hazards are marked, or unsafe places to swim flagged. The underlying assumption is that if children have the dangers pointed out to them, reason and commonsense will prevail, and they will avoid sniffing.

Unfortunately, children are not always as rational as adults wish them to be, and approaches of this type may positively influence only a very small minority of children. More to the point, there may be negative effects. It is common, for example, for information approaches to list or describe the products or substances to be avoided. Adults would interpret this kind of information in this way, but to children it may function as a consciousness-raising device for pre-sniffers and as a shopping list for experimenters and other kinds of sniffers. Illustrations and diagrams can be problematic as well. One leaflet circulating in New Zealand and intended for children depicts an aerosol can being sprayed directly into the mouth. There is no visual clue given that this is a potentially lethal practice and a non- or pre-reader seeing this particular illustration might be turned on both to aerosols and to a very dangerous method of using them.

Descriptions of the solvent-induced 'high' which are intended to warn sniffers off may, if they are too graphic, have the opposite effect. As a rule, in working with children it is probably better to focus on the hangover stage rather than the intoxicated phase.

Again, undifferentiated warnings and statements, which lump all forms of sniffing together, may give children the impression that one solvent or kind of sniffing is no better or worse than any other. In addition, if the less common products are used as the examples, this may suggest to unsophisticated children that aerosols, petrol and fire extinguishers are the 'normal' things one uses for sniffing.

On the whole, there are so many pitfalls involved in preparing handout materials for children on the subject of sniffing that it is probably safer not to do so, relying instead on oral material tailored specifically for a particular child or group or children. The possibility that leaflets or information sheets intended for parents and teachers

may also find their way into children's hands has to be kept in mind as well.

One of the worst aspects of many anti-sniffing programmes and campaigns is that they are often instituted on a 'crash' basis, without any real ground work and with no provision for evaluation or follow-up. Sometimes politically inspired, they typically follow on from a period of general alarms in the media about the spread of sniffing, the calling of public meetings to discuss the problem, demands for legislation to deal with the situation, pressure on schools to 'do something', and so on, all of which simply serve to raise the consciousness of young people and introduce them to the idea of sniffing.

It is probably not a coincidence that as media interest in sniffing has increased, and more and more local groups have been set up to deal with sniffing, more and more sniffing seems to be going on. It might be worthwhile if everyone sat down and thought about the possible cause and effect relationships.

Should Schools Try to Educate About Sniffing Before the Event?

This rather depends on whether sniffing is a common or rare practice in a particular community. If it is completely unknown, it may be wiser to do nothing, and let sleeping dogs lie. The reason for this is that no matter how carefully you treat the subject, any kind of preventative or anticipatory education, including casualty-reduction, carries with it the risk that children exposed to the idea of sniffing will decide to try it. On the other hand, the first indication that sniffing is catching on in your locality may be a very frightened, sick or dead child, and one could well argue that the risks of touching off a wave of glue experimenting by early application of the principles of casualty-reduction are offset by the fact that children who do decide to try sniffing will at least known the worst dangers and how to avoid them. Even so, given the perversity of human nature, and the various reasons why children decide to sniff, simply knowing the hazards might not always be enough. Remember that many adults continue to smoke, though the dangers of doing so are common knowledge.

Non-Specific Measures

School programmes that attempt to improve self-concept, or decision-making skills, may have some general preventive value, although it might be very difficult to isolate and demonstrate their efficacy. The evidence that efforts to improve school climate and the relationship between teachers and pupils and between school and parents will have a number of benefits, including some degree of protection against sniffing, seems rather stronger. But the non-specific measures with the greatest potential for reducing the long-term attractiveness of sniffing are those that reduce school failure. Children making good progress in school, and obtaining a sense of achievement are very unlikely to become chronic solvent abusers.

Controlling Solvents

One of the things to avoid with glue-sniffers (i.e. sniffers who use glue) is any de-stabilization of their pattern of use. For example, it is a common reaction when sniffing is discovered in a community for attempts to be made to restrict sales of glue to minors. Sometimes there are moves to legislate along these lines. Steps of these kinds may produce a wave of juvenile shoplifting or house breaking. They may encourage unscrupulous adults to set up a glue black market, and this may lead on to the pushing of other drugs as well (Garner, 1983).

Turning young people into minor criminals and making them the prey of adult criminals is not really going to help them. But the real danger is that sniffers denied access to glue may simply move on to another, and probably more dangerous, substance. Refer to the appendix, and consider just how many of these products are to be found in the home, workshop, offices, or even schools. It is sad but regrettably true that the variety, wide availability and ordinary nature of solvents makes control of sniffing via control of solvents, particularly glues, practically impossible.

Of course, manufacturers have a responsibility to do what they can to prevent any evils that might flow from misuse of their products by children. Parents, retailers and indeed all adults have the same responsibility with regard to any products they sell, or use about the home or in their work. But it is simple commonsense to classify

solvents into more or less dangerous categories, and to concentrate on controlling access to the more dangerous substances, rather than the more commonly used ones. Attempts to prevent children obtaining the latter, however well meaning, will probably do more harm than good.

Treating the Solvents

There are similar kinds of problems with substituting harmless chemicals for more toxic ones, or in adding agents to a product, to make it unpleasant to sniff. If it was done on an ad hoc basis, sniffers would simply be shunted from the treated product to another untreated one. It might work if all possible substances were treated, but this is probably impossible for technical if not commercial reasons. It may be feasible to 'doctor' the most dangerous products. It is certainly possible, for example, to remove the lead from petrol, and fluorocarbons are not the only propellants that can be used in aerosols. However, while measures like these would make sniffing less dangerous they wouldn't necessarily prevent or discourage it to any appreciable extent. Indeed, by adding to the number of solvents commonly known to be 'safe', they might actively increase it. As for giving solvents unpleasant smells, this might discourage legitimate buyers and users as well as sniffers and for this reason it would probably be unacceptable to manufacturers.

Out-of-School Sniffers

If we had set out to develop a drug or drugs especially for young people we could hardly have improved on glue and other solvents. Almost everything about these substances makes them ideal for use by children and adolescents. They are cheap, and legal to buy and possess, even by children. They are readily available in stores and if there is no money for purchase they can be easily stolen, no only from shops, but from school store rooms, garages or any number of other locations. Many of them come in convenient and easily concealed containers ideally designed for sniffing. They work quickly, frequently

in seconds, and full recovery can take place, depending on the dose, within a matter of minutes.

Given that solvents exist, and that their ability to intoxicate is common knowledge, their accessibility, if nothing else, makes it almost inevitable that children will try them.

But their accessibility, cheapness, convenience and utility as intoxicants can make solvents attractive to other groups as well. Thus, while much of the current concern seems to be focused on glue sniffing among children, it is very likely that solvent abuse among somewhat older out-of-school and unemployed young people will become the sniffing 'growth area' of the late 1980s. This seems certain to happen as more and more young sniffers leave school, or drop out, and join the growing army of unemployed youth and street kids that the last two decades have so sadly produced.

In the end, sniffing among this particularly population may only yield to broad social and economic policies and measures that reduce poverty and unemployment in our society. In the meantime, the interventions discussed below for chronic users may be helpful with some of these more-or-less adult social sniffers, as may be elements of the educational approaches suggested for school age sniffers. Alternatively, the hard-to-teach nature of this group may mean that casualty-reduction is the only really viable option. Even then, some very special problems of communication and dissemination will need to be overcome.

Counselling and Therapy

Most kinds of sniffing are self-limiting, although some kinds are more persistent than others. We do not yet know how to prevent the onset of sniffing behaviour, but we have, in the casualty-reduction approach, a safety-net that can probably prevent harm while the sniffing runs its course. In some cases, the nature of the sniffing is so serious that more intensive kinds of intervention are needed. In these instances, it may be possible to use casualty-reduction as a holding strategy, as a way of buying time while approaches of a more curative kind – usually a form of counselling and therapy – are tried.

Chronic Sniffing

Refer back to the definitions of chronic sniffing. As one might expect, sniffing of this kind has very different origins, and can have different consequences, than sniffing of the more common experimental or recreational kinds. It also involves young people of a different type. In general, experimental and social sniffers are quite normal children, firmly rooted in their peer group, maybe just a bit more adventurous than most. Chronic abusers, on the other hand, typically suffer from deep seated anxiety and insecurity, frequently because of poor parenting (O'Connor, 1983b). If they didn't chance upon sniffing as a 'solution' to their difficulties they would come to the attention of teachers or social workers for some other reason – truancy, drunkenness, stealing, vandalism, running away, or other kinds of delinquency. Indeed, it is quite common for sniffing to be only one of the problems these unhappy and neglected young people exhibit, and solvents are frequently not the only drug they use (e.g. Burrows, 1983).

Chronic sniffers of school age will generally be among the pupils most alienated from the school. For this reason, and also because they require very specialized handling, they are largely beyond the help of the schools. The main responsibility that teachers have in their case is identification, so that early referral can be made to the public health nurse, family doctor, minister or priest, youth aid officer, school psychologist, social worker or some other professional. There is no certain treatment, but some of the approaches that have been tried are noted below. In the nature of things, many chronic sniffers will be school dropouts, or past the leaving age, and perhaps beyond the reach of any caring agency. They may also be quite resistant to compulsory treatment of any kind. In New Zealand the Alcoholism and Drug Addiction act permits chronic abusers to be detained in an institution, against their wills if necessary, if their abuse is a health hazard, or a cause of harm, suffering or serious disturbance to others. Whether institutional detention is or would be a worthwhile procedure has yet to be determined, of course.

Assuming that the sniffer or sniffers are not actively hostile, the first option available is individual or group counselling. A number of approaches are possible, (O'Connor, 1983b) including the one

developed at the University of Newcastle (O'Connor, 1983a), and outlined below.

- Provide a friendly, relaxing setting. Listen to the young person. Try to build a warm relationship with him. Encourage him to talk about his problems.
- Organise family support and the support of friends.
- Advise on diet, hygiene, exercise, peer relationships, family relations, alternative solutions to the problems of boredom, frustration or anxiety, stress reduction techniques, etc.
- Employ behaviour modification techniques to map out a way of gradually reducing dependency on solvents, not forgetting to discuss the psychological effects of withdrawal – depression, irritability, etc.
- Set up structured discussion groups, with others who have successfully given up sniffing.

Research by Rubin and Babbs (1970) suggests that intervention strategies involving parents, friends, teachers and other significant and supportive individuals are likely to be more effective than treatment schemes which focus on the user alone, and which isolate him from the social or family environment which produced the sniffing in the first place.

What we know about the nature of chronic solvent abuse tends to lead us to the same conclusion as well, namely that the presenting 'problem' is a symptom of some underlying family or personal difficulty, and that it is the latter that must be identified and dealt with if it is at all possible to do so. This should be kept in mind whatever the nature of the treatment.

Beyond counselling approaches, some successes have been reported with both hypnotherapy and psychotherapy, including aversion therapy (Korman, 1977; Maletzky, 1974; Laury, 1972), and it seems evident that these approaches may be effective in selected cases, perhaps when there is a strong resistance to counselling of a more conventional type. O'Connor (1978b) is essential reading with respect to psychotherapeutic approaches.

The Setting for Treatment

It is probably unwise to bring chronic sniffers into drug abuse clinics or similar settings where contact with individuals using other kinds of drugs could occur. For much the same reason, there is wisdom in keeping chronic sniffers apart from social or recreational sniffers, despite any overlap there may be between the programmes being used with these two categories of sniffers.

When chronic sniffers associate with other chronic sniffers on a daily social basis it won't be feasible or practical to try to isolate or keep them away from each other. But creating a group, for treatment or management purposes, where one did not exist before is something that needs to be done with some awareness of the risks that may be involved.

Scottish experience, for instance, with special sniffing centres or camps, is that this can foster group solidarity and a kind of esprit de corps, stiffening resistance to the treatment programme. It will be interesting to see what happens in New Zealand, should similar schemes be tried here.

Curb-side counselling, by social workers, youth aid officers or other suitable individuals is an obvious initial strategy for use with sniffers no longer at school, especially if these professionals can arrange referrals elsewhere. It also has the advantage of enabling the sniffing scene to be monitored at the street level, including the gathering of accurate intelligence about its nature and extent. It is probably valuable if the street workers are co-ordinated and supported by some kind of multi-disciplinary committee comprising teachers, youth aid officers, public health nurses, doctors, community leaders, and so on, since this enables all local resources, both public and private, to be used effectively.

At the University of Newcastle, it was found that sniffers tended to have poor school records and attainments, and that simply teaching them to read could have a beneficial effect. This suggests that agencies and services that already exist to deal with the problems of young people, for example, poor school adjustment, difficult home circumstances, and the like, might well adapt quite nicely to the new task of rehabilitating chronic sniffers.

Working With Parents

A good deal of the current public concern with sniffing is media-created. Anyone who doubts the role of the press and television in 'creating' drug problems, and then publicising them, all in the name of the community's right to know, should track down the Brecher (1972) article *How to Launch a Nationwide Drug Menace*. But while the anxiety that many adults, and in particular parents, have about sniffing may have been largely generated by alarmist and sensational reporting it is, nonetheless, real. This means that before you try to do anything for sniffers, actual or potential, you first have to work with their parents and with other involved adults.

The task is a two-fold one. Firstly, parents have to be given the knowledge to deal appropriately with their children, should they discover or suspect that they are sniffing. Secondly, they will probably need help in coping with their own emotional response to what is often a very traumatic discovery, one that can produce not only panic and confusion but feelings of guilt and failure as well.

There will need to be a good deal of information-giving to counter the effects of media misinformation about sniffing and its likely consequences. Sections of this guide will be useful, and more detailed factual information can be obtained by consulting the sources listed in the bibliography at the back. The objective is to put sniffing into a more realistic and less fearful perspective. When we were children, tobacco and maybe alcohol were virtually the only taboo substances available. Our parents certainly reacted negatively to evidence of juvenile smoking or drinking, but the discovery of a few butts behind the shelter shed did not produce hysteria, or public pressure on the local tobacconist or banner headlines in the newspaper. There are a few thought-provoking comparisons to be made here.

It is important too, that parents get some idea of the limitations of the educational and other kinds of approaches to the control of sniffing, and of the dangers of over-reaction. They should know that it is not

possible, with our present knowledge, to suppress sniffing entirely, and that heavy handed attempts to do so will almost certainly make matters worse than they need be. Stress to parents that it is not the end of the world if they discover that their child is sniffing, and that they don't need to feel guilty or ashamed. Even the children of loving and concerned parents feel peer pressure, and all normal children are curious and eager to try something new. Nor need parents feel helpless – there are things they can do either to substitute some other recreational activity or make the sniffing relatively harmless and benign. Above all, whether talking to an individual parent, holding a small workshop, or speaking to a fairly large gathering, stress the importance of a good relationship between parent and child.

The parents of chronic sniffers are special cases. See O'Connor (1983b) for helpful advice.

A Method for Adults

A good approach with adults is to discuss the common misconceptions held about sniffing. With small groups, it is feasible to use a set of true/false questions or some other pencil and paper exercise as a stimulus. The publication of the Scottish Health Education Group, *Solvent Abuse: A Report for Professionals Working in Scotland*, contains some good examples of how this can be done.

With larger groups, the traditional illustrated talk, with plenty of time for questions at the end and perhaps something for everyone to take away with them, may be as good a method as any.

Cross-Cultural Communication

Most of the professionals who get involved in anti-sniffing programmes will be Pakeha and middle-class. A good percentage of the parents they deal with will be Maori or Pacific Islanders. There are some special problems of communication involved, and you will find the Joan Metge and Patricia Kinloch publication, *Talking Past Each Other: Problems of Cross-Cultural Communication*, invaluable in sorting these out.

Working With Professionals

You will need to work with other professionals. This will probably mean that seminars and training programmes have to be run, so that all the workers in your locality or region can get their act together, and agree on a common plan of action. If so, one of the most helpful items to have at your fingertips is the Institute for the Study of Drug Dependence's *Drugs Demystified Training Pack*.

This valuable publication contains a strategy for in-service training on the nature and effects of any legal or illegal drug (including solvents) and on ways of coping with the problems associated with its misuse. It is a basic scheme, designed to be used with social workers, public health nurses, youth aid officers, school psychologists, guidance teachers and the like, who come across drug-related problems fairly frequently in the course of their work, but whose pre-service training may not have given them all the knowledge, confidence or skill they need to deal with them.

The DDT pack won't solve all of your training needs, and since the materials assume a British or at least an English locale, some adaption to antipodean practices and terminology will be needed. But it will get you well started on some of the most urgent tasks in the whole area of solvent abuse management and intervention, namely consciousness raising, knowledge improvement and skill development among professionals whose primary focus and training lie outside the field but who, in the course of their work, are drawn willy nilly into it.

You will need to see that the local library and information sources are adequate. There are a number of useful articles and publications, but everyone's short list would probably include the following:

Sharp, C.W. and Brehm, M.L. (ed) *Review of Inhalants: Euphoria to Dysfunction*, Rockville, Maryland, National Institute on Drug Abuse, 1977.

Institute for the Study of Drug Dependence, *Teaching About a Volatile*

Situation: Suggested Health Education Strategies for Minimising Casualties Associated with Solvent Sniffing, London, ISDD, 1981. (ISDD has a number of relevant publications. Write for a list. ISDD, 1–4 Hatton Place, Hatton Garden, London, EC1N 8ND.)

Peers, Ian S. *Dealing with Solvent Misuse*, Manchester, TACADE, 1983. (TACADE has a number of relevant publications. Write for a list. TACADE, 2 Mount Street, Manchester, M25NG.)

Scottish Health Education Group, *Solvent Abuse. A Report for Professionals Working in Scotland*, Edinburgh, Scottish Health Education Group, 1981.

Human Toxicology, Vol. 1, No. 3, 1982. (Proceedings of a symposium on solvent abuse organized by the National Poisons Information Service, Guy's Hospital, 24 November 1981).

O'Connor, D. *Glue Sniffing and Volatile Substance Abuse. Case Studies of Children and Young Adults*, Aldershot, Hampshire, Gower Publishing Company, 1983.

Concluding Comments

Trying glue is probably well on its way to becoming one of the rites of early adolescence in New Zealand – a latter day equivalent of the purloined smoke, and the forerunner of the first encounters with alcohol or cannabis. It is the contemporary manifestation of a very ancient kind of human behaviour which, unfortunately, has established itself among our children. The practice can't be legislated out of existence, any more than drunkenness can be, and it is very unlikely that it can be dealt with entirely by altering the chemical composition of substances, so that they become unsuitable for sniffing. In short, we may have to accept that juvenile sniffing is here to stay.

For some of the children drawn to sniffing, there will be serious consequences. For the great majority, however, it will become one of those problematic areas, like human relationships, learning to cope

with alcohol, acquiring skill and sense on the highway, that all of our young people have to cope with as they traverse the no-man's land towards adulthood. Mercifully, most of them do so without getting pregnant, or a conviction for drunken driving, and most of them will do so without becoming chronic solvent abusers. But that does not mean we have to sit on our hands, turn a blind eye, and hope for the best. Far from it. In all of these areas, including sniffing, there is a place for parent education and information, sensible advice and guidance to children and other kinds of helpful support and counselling.

References

Anderson, H.R. *et al.* An investigation of 140 Deaths Associated With Volatile Substance Abuse in the United Kingdom, 1971–1981. *Human Toxicology*, Vol. 1, No. 3, 1982, pp.207–222.

Barnes, G.E. Solvent Abuse: A Review, *The International Journal of the Addictions*, Vol. 14, No. 1, 1979, pp.1–26.

Brecher, E.M. Inhalants: Solvents and Glue Sniffing: The Historical Antecedents of Glue Sniffing: How to Launch a Nationwide Drug Menace. In *Licit and Illicit Drugs*, edited E.M. Brecher, Boston, Little, Brown and Company, 1972, pp.309–334.

Burrows, G. Glue Sniffing: The Psychosocial Context, *Australian and New Zealand Journal of Criminology*, Vol. 16, 1983, pp.163–171.

Campbell, D. and Watson, J.M. A Comparative Study of 18 Glue Sniffers, *Community Health*, Vol. 9, No. 4, 1978, pp.207–210.

Clark, D.G. and Tinston, D.J. Acute Inhalation Toxicity of Some Halogenated and Non-Halogenated Hydrocarbons, *Human Toxicology*, Vol. 1, No. 3, 1982, pp.239–248.

Fishburne, P.M. and Abelson, H.I. *National Survey on Drug Abuse*. Rockville, Mary land, National Institute on Drug Abuse, 1980

Francis, J. et al. Suspected Solvent Abuse in Cases Referred to the Poisons Unit, Guy's Hospital, July 1980–June 1981, *Human Toxicology* Vol. 1, No. 3, 1982, pp.271–280.

Garner, R. How Glue Sniffers are Lured to Hard Drugs, *The Times Educational Supplement*, 11 November 1983.

Gay, M., Meller, R. and Stanley, S. Drug Abuse Monitoring: A Survey of Solvent Abuse in the County of Avon, *Human Toxicology*, Vol. 1, No. 3, 1982, pp.257–263.

Gosselin, R.E., Hodge, H.C., Smith, R.P. and Gleason, M.N. *Clinical Toxicology of Commercial Products: Acute Poisoning*. Baltimore, Williams and Wilkins, 1976.

Hershey, C.O. and Miller, S. Solvent Abuse: A Shift to Adults, *The International Journal of the Addictions*, Vol. 17, No. 6, 1982, pp.1085–1089.

Institute for the Study of Drug D-pendence, *Teaching About Volatile Situations*, London, ISDD, 1981.

Institute for the Study of Drug Dependence, *Drugs Demystified Training Pack*. London, ISDD, 1984.

Johnston, L.D., Bachman, J.G. and O'Malley, P.M. *Highlights from Student Drug Use in America 1975–1980*. Rockville, Maryland, National Institute on Drug Abuse, 1980.

Korman, M. Clinical Evaluation of Psychological Factors. In *Review of Inhalants: Euphoria to Dysfunction*, edited C.W. Sharp and M.L. Brehm, Rockville, Maryland, National Institute on Drug Abuse, 1977, pp.30–53.

Laury, G.V. Psychotherapy with Glue Sniffers, *International Journal of Child Psychotherapy*, Vol. 1, 1972, pp.98–110.

Maletzky, B. Assisted Covert Sensitization for Drug Abuse, *International Journal of Addiction*, Vol. 9, No. 3, 1974, pp.411–429.

Masterton, G. The Management of Solvent Abuse, *Journal of Adolescence*, Vol. 2, 1979, pp.65–75.

Metge, J. and Kinloch, P. *Talking Past Each Other: Problems of Cross-Cultural Communication*. Wellington, Victoria University Press/Price Milburn, 1978.

O'Connor, D.J. A Profile of Solvent Abuse in School Children, *Journal of Child Psychology and Psychiatry*, Vol. 20, 1979, pp.365–368.

O'Connor, D.J. The Use of Suggestion Techniques with Adolescents in the Treatment of Glue Sniffing and Solvent Abuse, *Human Toxicology*, Vol. 1, No. 3, 1982, pp.313–320.

O'Connor, D.J. (a) Glue Sniffing and the Abuse of Solvents by School Children and Adolescents, *Durham and Newcastle Research Review*, Vol. 10, No. 50, 1983, pp.65–71.

O'Connor, D.J. (b) *Glue Sniffing and Volatile Substance Abuse: Case Studies of Children and Young Adults*. Aldershot, Hampshire, Gower Publishing Company, 1983.

Officials Committee on Family and Social Policy, *Report to the Minister of Social Welfare*. Wellington, Department of Social Welfare, 1984.

Passmore, B. Solvent Abuse Death Toll Drops, *Times Educational Supplement*, 25 January 1985.

Rubin, T. and Babbs, J. The Glue Sniffer, *Federal Probation*, Vol. 34, No. 3, 1970, pp.23–28.

Scottish Health Education Group, *Solvent Abuse: A Report for Professionals Working in Scotland*. Edinburgh, Scottish Health Education Group, 1981.

Skuse, D. and Burrell, S. A Review of Solvent Abusers and their Management by a Child Psychiatric Out-Patient Service, *Human Toxicology*, Vol. 1, No. 3, 1982, pp.321–329.

Watson, J.M. Morbidity and Mortality Statistics on Solvent Abuse, *Medical Science and the Law*, Vol. 18, No. 1, 1978, pp.246–252.

Watson, J.M. Solvent Abuse: Presentation and Clinical Diagnosis, *Human Toxicology*, Vol. 1, No. 3, 1982, pp.249–256.

Woolfson, R.C. Psychological Correlates of Solvent Abuse, *British Journal of Medical Psychology*, Vol. 55, 1982, pp.63–66.

Further Reading

Bibliographies

Bibliography on Solvent Use. London, Institute for the Study of Drug Dependence, 1981.

Barnes, G.E. and Vulcano, B.A. Bibliography of the Solvent Abuse Literature, *The International Journal of the Addictions*, Vol. 14, No. 3, 1979, pp.401–421.

Kupperstein, L.F. and Susman, R.M. A Bibliography on the Inhalation of Glue Fumes and Other Toxic Vapours – A Substance Abuse Practice Among Adolescents, *International Journal of Addiction*, Vol. 3, 1968, p.1.

Overviews

Inhalants. The Deliberate Inhalation of Volatile Substances. Rockville, Maryland, National Institute on Drug Abuse, 1978, Report Series 30, No. 2.

Ives, R. *Solvent Abuse: A Review of Research*. London, National Children's Bureau, 1981, Highlight No. 43.

Watson, J.M. Solvent Abuse by Children and Young Adults: A Review, *British Journal of Addiction*, Vol. 75, 180, pp.27–36.

Poklis, A. and Burkett, C.D. Gasoline Sniffing: A Review, *Clinical Toxicology*, Vol. 11, No. 1, 1977, pp.35–41.

Wyse, D.G. Deliberate Inhalation of Volatile Hydrocarbons: A Review, *Canadian Medical Association Journal*, Vol. 108, 1973, pp.71–74.

Walter, P.V. *et al.*, Glue Sniffing: The Continuing Menace, *Drug Forum*, Vol. 5, No. 3, 1976–77, pp.193–195.

Linder, R.L. *et al.*, Solvent Sniffing: A Continuing Problem Among Youth, *Journal of Drug Education*, Vol, 4, No. 4, 1974, pp.469–473.

Merrill, E. Problems of Children Stuck on Glue, *Community Case*, 12 July 1978, pp.16–19.

Solvent Sniffing. Wellington, Department of Health, 1980.

Swerhun, P. and Le Breton, S. Chronic Solvent Abuse. Can You Help? *Canadian Nurse*, Vol. 79, No. 1, 1983, pp.40–45.

Hannifin, J. Inhalant Abuse, *Newsletter Manawatu Society on Alcohol and Drug Use*, No. 2, 1981, pp.1–4.

Kay, L. What is Solvent Abuse? *Concern*, No. 18, 1983, pp.12–21.

Bowers, A.J. and Sage, L.R. Solvent Abuse in Adolescents: The Who? What? and Why? *Child Care, Health and Development*, Vol. 9, 1983, pp.169–178.

Epidemiological and Statistical Studies

Watson, J.M. Clinical and Laboratory Investigations in 132 Cases of Solvent Abuse, *Medicine, Science and the Law*, Vol. 18, No. 1, 1978, pp.40–43.

Lockhart, W.H. and Lennox, M. The Extent of Solvent Abuse in a Regional Secure Unit Sample, *Journal of Adolescence*, Vol. 6, No. 1, 1983, pp.43–55.

Motivation

Krug, D.C. *et al.*, Inhalation of Commercial Solvents: A Form of Deviance Among Adolescents. In *Drug Addiction in Youth*, edited E. Harms, Oxford, Pergamon Press, 1965, pp.36–45.

Shanholtz. M.I. Glue Sniffing: A New Symptom of an Old Disease. In *Medical Readings on Drug Abuse*, edited O. Byrd, Reading, Massachusetts, Addison-Wesley, 1970, pp.82–83.

Krasowski, J.A. Psycho-Social Theory of Solvent Abusers, *Drug Forum*, Vol. 1, No. 3/4, 1978–79, pp.371–382.

Gilbert, J. Deliberate Metallic Paint Inhalation and Cultural Marginality: Paint Sniffing Among Acculturating Central California Youth, *Addictive Behaviour*, Vol. 8, 1983, pp.79–82.

Schmidt, G.L. Study of Achievement Motivation and Frustration in Glue Sniffers, *Drug Forum*, Vol. 4, No. 4, 1975, pp.331–348.

Clement, J.E. Environmental and Behavioral Aspects of Glue Sniffing in a Population of Emotionally Disturbed Adolescents, *The International Journal of the Addictions*, Vol. 13, No. 1, 1978, pp.129–134.

Suwaki, H. A Follow-Up Study of Adolescent Glue-Sniffers in Japan, *British Journal of Addiction*, Vol. 78, 1983, pp.409–413.

Dangers

Hayden, J.W. and Comstock, E.G. The Clinical Toxicology of Solvent Abuse, *Clinical Toxicology*, Vol. 9, No. 2, 1976, pp. 169–184.

Christ, D. Inhalation of Aerosol Propellants, *Street Pharmacologist*, Vol. 3, No. 8, 1980, pp. 5–12.

Mahmood, Z. Cognitive Functioning of Solvent Abusers, *Scottish Medical Journal*, Vol. 28, No. 3, 1983, pp.276–280.

Poklis, A. Aerosol Propellant Abuse and Toxicity, *Canadian Society of Forensic Science Journal*, Vol. 8, No. 3, 1–75, pp.87–95.

Schmitt, R. *et al.*, Gasoline Sniffing in Children Leading to Severe Burn Injury, *Journal of Pediatrics*, Vol. 80, No. 6, 1972, pp.1021–1023.

Werner, M. Inhalant Abuse, *Pharmaceutical Chemistry Newsletter*, Vol. 8, No. 8, 1979, pp.1–6.

Novak, A. The Deliberate Inhalation of Volatile Substances, *Journal of Psychedelic Drugs*, Vol. 80, No. 2, 1980, pp.105–122.

Hofmann, F.G. and Hoffman, A.D. *A Handbook on Drug and Alcohol Abuse: The Biomedical Aspects*. New York, Oxford University Press, 1975.

Oliver, J.S. The Investigation of Solvent Abuse Deaths, *Journal of Forensic Science Society*, Vol. 23, No. 3, 1983, pp.247–249.

Allison, W.M. and Jerram, D.W.A. Glue Sniffing: A Pilot Study of the Cognitive Effects of Long-Term Use, *The International Journal of the Addictions*, Vol. 19, No. 4, 1984, pp.453–458.

Treatment, Management and Education

Peers, I.S. A Community Approach to the Problems of Solvent Abuse, *The Health Education Journal*, Vol. 40, No. 2, 1981, pp.33–40.

Rowell, V. and Wood, P.J.W. A Health Education Approach to Solvent Abuse, *The Health Education Journal*, Vol. 40, No. 2, 1981, pp. 41–45.

Information about Solvent Sniffing for Teachers and Youth Workers. Wellington, Department of Education, 1980.

NASD, *What a Concerned Community Can Do About Sniffing Abuse*. Wellington, National Society on Alcoholism and Drug Dependence, 1979.

Actions Against Sniffing. Stockholm, National Swedish Board of Health and Welfare, 1978.

Middleton, D.M. (ed.) *Solvent Abuse in Dundee*. Dundee, 1978.

Cohen, S. Solvent Abuse and its Treatment. In *Treatment Aspects of Drug Dependence*, edited A. Schecter, West Palm Beach, Florida, CRC Press, 1978, pp.185–195.

Silberberg, N.E. and Silberberg, M.C. Glue Sniffing in Children – A Position Paper, *Journal of Drug Education*, Vol. 4, No. 3, 1974, pp.301–307.

Sansum, G. Glue Sniffing. A Study, *Nursing*, Vol. 2, No. 24, 1984, pp.714–715.

Solvent Sniffing: Notes Designed for Professionals. London, Camden/Islington Area Health Authority, 1980.

Drug Abuse: Vapour Inhalation, Glue Sniffing, Solvent Abuse. A Document of Guidance for those Involved with Young People. Swansea, West Glamorgan County Council, 1980.

Solvent Abuse: Educational Implications. Manchester, Teachers Advisory Council on Alcohol and Drug Education, 1981.

Ashton, M. Ways of Dealing with Sniffing, *Druglink*, No. 16, 1981, pp.8–9 (Reviews of five publications on sniffing).

Sexter, J. *et al.*, Substance Abuse: Assessment of the Outcomes of Activities and Activity Clusters in School-Based Prevention, *The International Journal of the Addictions*, Vol. 19, No. 1, 1984, pp.79–92.

Ashton, M. Solvents Law in Scotland, *Drug Link Information Letter*, No. 19, 1984, pp.1–7.

Thomson, W. Glue-Sniffing and the Use of Posters, *Health Education Journal*, Vol. 43, Nos. 2/3, 1984, pp.50–52.

Training Manuals

Solvent Abuse. A Training Manual for Professionals. London, Health Education Council, 1984. Obtained from Michael Benn and Associates, P.O. Box 10, Wetherby, Yorks, LS23 7EH, England. Reviewed *Times Educational Supplement*, 15.3.85, p.29.

Other Australian or New Zealand References

The Aboriginal Child at School, Vol. 8, No. 5, 1980, pp.31–42 (three articles on petrol sniffing in aboriginal communities).

Coutts, N. Petrol Sniffing: A Community Crisis, *Developing Education*, Vol. 8, No. 4, 1981, pp.4–6.

Rogers, G. Petrol Sniffing: A Barrier to Learning, *Pivot*, Vol. 6, No. 4, 1979, pp.24–25.

Burgin, C. Solvent Abuse in Palmerston North: A Social Study, *New Zealand Social Work*, Vol. 7, No. 1, 1982, pp.4–7.

Appendix: A General Guide to Some of the Chemicals in Sniffed Products

Glues	Toluene, Hexane, Heptane, Ethyl Acetate, Isopropyl Acetate, Acetone, Methyl Ethyl Ketone, Methylene Chloride, Trichloroethane
Typing Eraser	Amyl Acetate
Fingernail Polish and Remover	Acetone, Amyl Acetate
Petrol	Benzene, Toluene, Xylene, Naphthalene, Hexane, Heptane, Tetraethyl Lead
Paint Thinner	Toluene, Ethyl Acetate, Cellosolve Acetate Methanol, Isopropanol, Methylene Chloride
Dry Cleaning Fluid	Carbon Tetrachloride, Trichloroethane
Aerosols	Methylene Chloride, Isobutane, Propane, Trichlorofluoromethane, Difluorodichloromethane
Fire Extinguishers	Carbon Tetrachloride, Bromochlorodifluoromethane, Trifluorobromomethane, Dibromotetrafluoroethane

Many similar tables are available, e.g. Clark, D.G. and Tinston, D.J. Acute Inhalation Toxicity of Some Halogenated and Non-Halogenated Hydrocarbons, *Human Toxicology*, Vol. 1, No. 1, 1982, p.240; Akerman, H.E. The Consititution of Adhesives, and its Relationship to Solvent Abuse, *Human Toxicology*, Vol. 1, No. 1, 1982, p.226; O'Connor, D.J. Research Report: Glue Sniffing and the Abuse of Solvents by Schoolchildren and Adolescents, *Durham and Newcastle Research Reviews*, Vol. 10, No. 50, 1983, p.66; Metrotec Research Associates, *Inhalants. The Deliberate Inhalation of Volatile Substances.* Rockville, Maryland, National Clearinghouse for Drug Abuse Information, 1978, p.5.